

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave.St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-025163**Date Inspected:** 11-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai**CWI Name:** Tian Lei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector R. Hernandez was present during the time noted above and conducted observations relative to the work being performed.

The QA Inspector randomly observed the following work in progress:

Bay Number 1

FCAW welding of fillet welds located on Barrier Rails components identified as E2-SB2-006 weld number(s) 001~012, 032~043, & 063~074. Welder is identified as welder no. 068554. The welding variables recorded by ZPMC QC identified as Wai Tao appeared to comply with applicable WPS(s) WPS-B-T-2132-3 & WPS-B-T-2133.

FCAW welding of fillet welds located on Barrier Rails components identified as E2-SB1-030 weld number(s) 126~131. Welder is identified as welder no. 068916. The welding variables recorded by ZPMC QC identified as Wai Tao appeared to comply with applicable WPS(s) WPS-B-T-2132-3 & WPS-B-T-2133.

FCAW welding of fillet welds located on Barrier Rails components identified as E2-SB1-046 weld number(s) 001~012, 032~043, & 063~074. Welder is identified as welder no. 215082. The welding variables recorded by ZPMC QC identified as Wai Tao appeared to comply with applicable WPS(s) WPS-B-T-2132-3 & WPS-B-T-2133.

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

---

FCAW welding of fillet welds located on Barrier Rails components identified as E2-SB1-046 weld number(s) 001~012, 032~043, & 063~074. Welder is identified as welder no. 203710. The welding variables recorded by ZPMC QC identified as Wai Tao appeared to comply with applicable WPS(s) WPS-B-T-2132-3 & WPS-B-T-2133.

### Bay Number 2

This inspector generated an incident report for the contractor excavating a SPCM component to a depth which exceeded 65% of plate thickness. Welder identified as no. 045245 was performing a repair of weld on sub assembly identified as SA3445-001. The weld is identified as: SA3445-001-001. The welding repair procedure being used was identified as B-WR-16822. Please reference WPS-341-FCAW-1G(1F)-FCM-Repair for welding repair variables. During routine identification of repair area this inspector discovered that after initial pass in the bottom of the recently excavated repair area it was discovered that the excavation depth exceeded 27 mm in depth. The overall weld depth is 40mm. Calculation of depth of excavation was found to exceed the maximum allowable percentage of 65%. Contractor did not have the required critical weld repair documentation. The vertical shear plates being joined are identified as X5094A and X5094B both plates are identified as SPCM/FCM material. Detail WD621L specifies 60 degree single bevel groove weld with 40mm depth.

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Anchorage Plate component identified as AP3032-001 weld number(s) 798 & 799. Welder is identified as welder no. 066596. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS(s) WPS-13-P-2333-TC-P4-F and WPS-B-T-2233-TC-U4b-F.

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Anchorage Plate component identified as AP3032-001 weld number(s) 606 & 607. Welder is identified as welder no. 068924. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS-13-P-2333-TC-P4-F and WPS-B-T-2233-TC-U4b-F.

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Anchorage Plate component identified as AP3032-001 weld number(s) 338 & 339. Welder is identified as welder no. 067500. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS(s) WPS-13-P-2333-TC-P4-F and WPS-B-T-2233-TC-U4b-F.

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Anchorage Plate component identified as AP3032-001 weld number(s) 632 & 633. Welder is identified as welder no. 066041. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS(s) WPS-13-P-2333-TC-P4-F and WPS-B-T-2233-TC-U4b-F.

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Anchorage Plate component identified as AP3032-001 weld number(s) 968 & 969. Welder is identified as welder no. 066359. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS(s) WPS-13-P-2333-TC-P4-F and WPS-B-T-2233-TC-U4b-F.

### Bay Number 3

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Longitudinal Diaphragm

---

## WELDING INSPECTION REPORT

( Continued Page 3 of 4 )

---

component identified as LD3040-001 weld number(s) 079. Welder is identified as welder no. 050242. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS(s) WPS-B-T-2233-TC-U4c-F.

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Longitudinal Diaphragm component identified as LD3040-001 weld number(s) 062. Welder is identified as welder no. 055564. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS(s) WPS-B-T-2232-TC-U4c-F .

FCAW welding of complete joint penetration weld joint(s) located on lift 14 OBG Longitudinal Diaphragm component identified as LD3041-001 weld number(s) 039. Welder is identified as welder no. 206623. The welding variables recorded by ZPMC QC identified as Tian Lei appeared to comply with applicable WPS(s) WPS-B-T-2233-TC-U4c-F.

### Bay Number 4

This QA inspector assisted in the performance MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel, by the lot method testing procedure. This QA Inspector assisted in the generation an MT report for this date by inspector lot no. All components were as listed on NWIT notification no. 07313. The member(s) is/are identified as OBG Sub Assembly component. The weld designations reviewed are as follows:

1. SA3357-001-002, 004, 006, & 008.
2. SA3358-001-002, 004, 006, & 008.
3. SA3359-001-002, 004, 006, & 008.
4. SA3360-001-002, 004, 006, & 008.
5. SA3361-001-002, 004, 006, & 008.
6. SA3362-001-002, 004, 006, & 008.
7. SA3363-001-002, 004, 006, & 008.

Unless otherwise noted above all items observed on this day appeared to be in general compliance with the applicable contract documents

### Summary of Conversations:

Pertinent conversations are included in the body of the report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 1500-0042-02372, who represents the Office of Structural Materials for your project.

---

## WELDING INSPECTION REPORT

( Continued Page 4 of 4 )

---

**Inspected By:** Hernandez,Rene

Quality Assurance Inspector

**Reviewed By:** Hall,Steven

QA Reviewer